

**Mission**

To manage Salinas Valley solid waste as a resource, promoting sustainable, environmentally sound and cost effective practices through an integrated system of waste reduction, reuse, recycling, innovative technology, customer services and education.

**Vision**

To reduce the amount of waste by promoting individual and corporate responsibility.  
To recover waste for its highest and best use while balancing rates and services.  
To transform our business from burying waste to utilizing waste as a resource.  
To eliminate the need for landfills.

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Innovation • Integrity • Public Education • Efficiency • Fiscal Prudence • Resourcefulness • Customer Service • Community Partnerships

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May 21, 2014

City of Gilroy  
Attn: Thomas Haglund, City Administrator  
7351 Rosanna Street  
Gilroy, Ca 95020

City of Morgan Hill  
Attn: Steve Rymer, City Manager  
17575 Peak Avenue  
Morgan Hill, Ca 95037

Subject: Proposed Landfill and Waste Hauler Modifications

Dear Mr. Haglund and Mr. Rymer,

On behalf of the Salinas Valley Recycles (SVR) Board and staff, we want to thank you for the many years of partnership with our agency and our mutual contractor, Recology. I want to apologize for the last minute presentation at the Gilroy Council Monday night. We were not aware that both cities were poised to take action until Friday before the meeting. Due to the late hour and speaker time constraints at the Council meeting, I was not able to fully portray to the Gilroy City Council our agency's offer of continued partnership with both cities. I will summarize our comments and suggestions below for you and your councils to consider as you move this project forward to conclusion next month.

The SVR has been pursuing new technologies for advanced processing of post-recycled waste still going to landfill. One specific technology, Steam Autoclave Waste Separation, has been extensively studied in partnership with the USDA and the technology developer Global OrganicS Energy (GOE) utilizing a pilot system that has been located at our Crazy Horse Landfill since 2007. A summary of the technology is attached for your reference. We have completed pre-development agreements with GOE to partner in the construction of a full commercial system using the autoclave technology for recovery of paper fiber and organics (food) from mixed commercial and residential wastes presently being landfilled. We have recently executed an agreement to construct the first autoclave unit at our Johnson Canyon Landfill with permitting currently in progress. This technology has consistently produced recovery levels of 60%-70% through our many years of trials and testing. Greenhouse Gas (GHG) reduction calculations for this project are underway and we expect the GHG reduction values to be very high compared to traditional waste recovery systems and use of overseas markets for most recycled paper collected on the west coast. All end products will be marketed to Bay area manufacturing and not shipped overseas.

In addition to these projected benefits, the permanent processing facility is being cited in the Salinas area. This location would eliminate your City's concerns over the current longer haul to our Johnson Canyon Landfill and reduce your transportation related GHGs to levels similar to or below those projected for shipping wastes to your proposed landfill. Access to our current and future facilities would be off the 101 freeway which is easy, close and less impactful to communities along the transportation route.

As a long standing partner with the SVR, we felt it was important to provide Gilroy and Morgan Hill this opportunity first, as your wastes have been coming to our landfill for many years. We believe this approach is more in line with your City goals of environmental stewardship and sustainability than to continue landfilling your post-recycled wastes in another community's landfill for 15 years.

If both cities highest priority is to keep rates as low as possible, then we concur that your bid process has produced that result and you should proceed forward as recommended by staff. Landfilling is still the cheapest method for disposal of post-recycled wastes, but comes with a list of long term liabilities and impacts to the host community that is often overlooked in analysis. This is the reason the SVR did not propose a long term landfill only proposal response to your request for proposals. We are only focusing on technologies that allow us to recover value from the wastes still heading to landfill. In our view, autoclaving is a more cost effective and flexible way for advanced waste recovery and the lowest cost of all the advanced technologies we have studied over the last several years. However, none of these advanced technologies are lower cost than landfilling, so the question for all jurisdictions facing similar challenges is: "What is more important for a community, lowest possible rates (continue landfilling) or advancing long term sustainability efforts?"

Our agency would be willing to discuss short term extensions and rate modifications for the existing landfill disposal agreement while our project is advanced, if one or both cities are interested in building on our partnership. We would also be willing to provide test runs in our pilot unit using your wastes for demonstration purposes to familiarize you with the technology and show its potential. We recently provided this service to the City/County of San Francisco and Recology, who are both interested in this technology to advance their own "Zero Waste" goals.

Please feel free to contact our offices at (831) 775-3000 if you wish to discuss this matter further and thank you again for the many years of partnership and consideration of our offer.

Sincerely,



Patrick Mathews, General Manager/CAO  
Salinas Valley Recycles

Attachments: Autoclave Technology Summary

Copy to:       Gilroy City Council  
                  Morgan Hill City Council  
                  Anthony Eulo, Program Administrator, Morgan Hill



## AUTOCLAVE RECYCLING TECHNOLOGY

General Description: The Autoclave Recycling Technology sterilizes, sorts, and isolates the organic portion of the incoming waste stream primarily for secondary paper fiber recycling and Anaerobic Digestion. The principal result is the recovery of cellulose (paper fiber) for return to the paper and packaging marketplace. Cellulose along with food waste makes up about 60%-70% of the wet residential and commercial waste stream derived from post-curbide sorting, unsorted multifamily, and Materials Recovery Facility (MRF) residuals. This simple procedure steams the waste material in a vacuum assisted rotating vessel with indirect heat for up to ninety (90) minutes at a temperature of about 268 degrees Fahrenheit, resulting in the clean separation of all paper and food waste from the incoming MSW. The process also sanitizes and prepares common recyclables for return to the existing markets.

Technology and Process Description: MSW treatment occurs by loading comingled unsorted waste into a preheated rotating 45 degree vessel, adding a wetting agent as needed (Thickened Waste Activated Sludge or gray water) and applying negative vacuum and variable heating up to approximately 268 degrees Fahrenheit for about 90 minutes. The patented helical design of the heating coils, along with a fixed spline within the autoclave provides the mechanical action which opens garbage bags, breaks apart the refuse, helps to pack the vessel, and reduces the paper components to a pulp material that can be easily separated from the contaminants. The organic fraction is then rinsed, pressed and returned to the paper and packaging marketplace. Solubilized organics from food wastes are recovered in the pulp wash water and processed through anaerobic digestion for energy production.

### Additional Benefits of the Autoclave Recycling Technology:

- Environmentally friendly green technology for enhanced recycling efforts recovering organic and paper fiber previously unrecoverable from residential and commercial MSW streams
- Eliminates hazardous hand sorting of raw garbage
- Sterilizes the MSW consistent with biomedical waste treatment process
- Allows sequestration of volatile organic compounds (organics) from land filled residuals

- Process produces very little effluent requiring treatment prior to disposal with most water being cleansed through the anaerobic digestion system and returned for re-use as pulp wash water.
- Paper industry experts have validated the marketability of the paper fiber recovered through the Autoclave Recycling process
- Solublized food waste (process water) is ideally suited for treated through high-rate anaerobic digester for biomethane-to-energy production, while recycling process water for continuous MSW processing

USDA Technology Confirmation: The USDA, Agricultural Research Service, Western Regional Research Center in Albany, California has been working with the autoclave for approximately four (4) years at a pilot plant located at the Crazy Horse Landfill owned and operated by the Salinas Valley Solid Waste Authority (SVSWA) under a Cooperative Research and Development Agreement (CRADA). Outcomes from the USDA work on the autoclave recycling process include validation of new or existing uses of the organic fractions: (i) recovery of paper fiber; (ii) lingo-cellulose for biofuel and biogas production; and (iii) high rate anaerobic digestion to treat solublized food waste for biomethane-green energy production, and reuse of process water for continuous MSW processing.

**Rotating steam autoclave reaction vessel, 6' diameter x 15' long, 2 ton capacity**



## Autoclave Testing Program

Before Steam Treatment



## Autoclave Testing Program

After steam treatment





## Autoclave Testing Program

Material (3/8")- screen separated



## COMMUNITY VALUE

- Maximizes recovery/Minimizes residue
- Jobs and Economic Development
- "Sustainable" project structure
- Enhances "Green Image"
- Significant GHG reductions
- Keeps materials in U.S. (and local) economy
- Would exceed CA goal of 75% diversion
- Extends landfill life





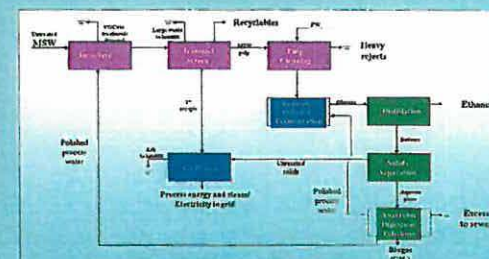
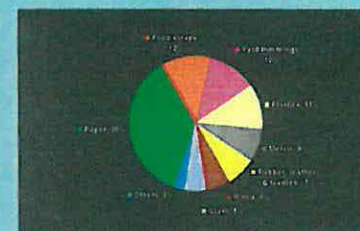


Partnership: SVSWA, USDA-ARS-  
Albany, Global OrganicS Energy

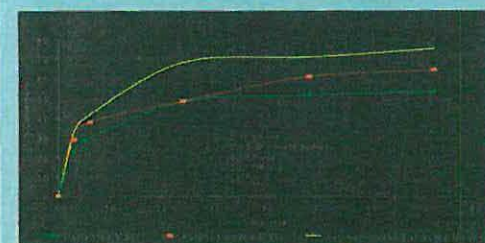
## Integrated, Flexible Biorefineries for Handling Municipal Solid Waste and Agricultural Residues



Articulated vessel  
allows rapid  
loading &  
unloading and  
improves mixing



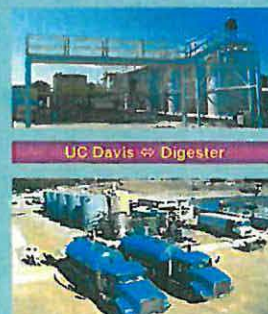
## ADDING VALUE TO ALL STREAMS: Producing ↔ Ethanol, Electricity, Methane, Recycled Paper, Recycled Plastic



Fermentation to Ethanol



Gasification ↔ Energy



Digestion ↔ Methane



USDA-Agricultural Research Service  
Western Reg. Research Center, Albany, CA

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